```
=> fil reg; d stat que l8; fil capl uspatf toxcenter; s l8
FILE 'REGISTRY' ENTERED AT 10:17:03 ON 31 MAR 2006
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Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES:   29 MAR 2006  HIGHEST RN 878540-28-4
DICTIONARY FILE UPDATES:  29 MAR 2006  HIGHEST RN 878540-28-4

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH January 6, 2006

  Please note that search-term pricing does apply when
  conducting SmartSELECT searches.

**********************************************************************
*                                                                    *
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added,   *
* effective March 20, 2005.  A new display format, IDERL, is now    *
* available and contains the CA role and document type information. *
*                                                                    *
**********************************************************************

Structure search iteration limits have been increased.  See HELP SLIMITS
for details.

REGISTRY includes numerically searchable data for experimental and
predicted properties as well as tags indicating availability of
experimental property data in the original document.  For information
on property searching in REGISTRY, refer to:

http://www.cas.org/ONLINE/UG/regprops.html
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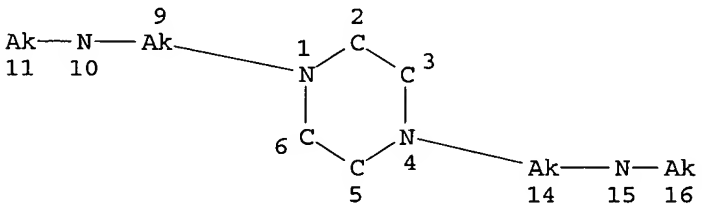
L6 STR



Ak = alkyl

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NODE ATTRIBUTES:
CONNECT IS E2  RC AT   9
CONNECT IS E1  RC AT  11
CONNECT IS E2  RC AT  14
CONNECT IS E1  RC AT  16
DEFAULT MLEVEL IS ATOM
MLEVEL  IS CLASS  AT   9 11 14 16
GGCAT   IS LIN  LOC  SAT  AT   9
GGCAT   IS UNS  AT  11
GGCAT   IS LIN  LOC  SAT  AT  14
GGCAT   IS UNS  AT  16
```

alkyls at 2 nodes 9 & 14 are linear, saturated, with ≤6 carbons

alkyls at nodes 11 & 16 are unsaturated, with ≥6 carbons

DEFAULT ECLEVEL IS LIMITED
ECOUNT IS M6 C AT 11
ECOUNT IS M6 C AT 16

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 12

STEREO ATTRIBUTES: NONE
L8 1 SEA FILE=REGISTRY SSS FUL L6

100.0% PROCESSED 706610 ITERATIONS 1 ANSWERS
SEARCH TIME: 00.00.09

FILE 'CAPLUS' ENTERED AT 10:17:03 ON 31 MAR 2006
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FILE 'USPATFULL' ENTERED AT 10:17:03 ON 31 MAR 2006

FILE 'TOXCENTER' ENTERED AT 10:17:03 ON 31 MAR 2006

L13 4 L8

```
=> fil marpat; d stat que l12
FILE 'MARPAT' ENTERED AT 10:17:20 ON 31 MAR 2006
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FILE CONTENT: 1961-PRESENT VOL 144 ISS 10 (20060324/ED)

SOME MARPAT RECORDS ARE DERIVED FROM INPI DATA FOR 1961-1987

MOST RECENT CITATIONS FOR PATENTS FROM MAJOR ISSUING AGENCIES
(COVERAGE TO THESE DATES IS NOT COMPLETE):

US   2006035965 16 FEB 2006
DE 102004031947 19 JAN 2006
EP      1614691 11 JAN 2006
JP   2006016369 19 JAN 2006
WO   2006012333 02 FEB 2006
GB      2416167 18 JAN 2006
FR      2873371 27 JAN 2006
RU      2267521 10 JAN 2006
CA      2472818 30 DEC 2005

Expanded G-group definition display now available.

New CAS Information Use Policies, enter HELP USAGETERMS for details.
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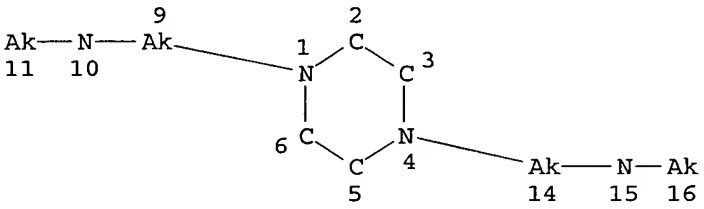
L6 STR

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NODE ATTRIBUTES:
CONNECT IS E2  RC AT   9
CONNECT IS E1  RC AT  11
CONNECT IS E2  RC AT  14
CONNECT IS E1  RC AT  16
DEFAULT MLEVEL IS ATOM
MLEVEL  IS CLASS  AT   9 11 14 16
GGCAT   IS LIN  LOC  SAT  AT   9
GGCAT   IS UNS  AT  11
GGCAT   IS LIN  LOC  SAT  AT  14
GGCAT   IS UNS  AT  16
DEFAULT ECLEVEL IS LIMITED
ECOUNT  IS M6 C  AT  11
ECOUNT  IS M6 C  AT  16

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS  12

STEREO ATTRIBUTES: NONE
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same structure as was searched in Registry

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L12          15 SEA FILE=MARPAT SSS FUL L6

100.0% PROCESSED   29452 ITERATIONS                          15 ANSWERS
SEARCH TIME: 00.00.25


=> dup rem l13,l12
FILE 'CAPLUS' ENTERED AT 10:17:30 ON 31 MAR 2006
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
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FILE 'USPATFULL' ENTERED AT 10:17:30 ON 31 MAR 2006
CA INDEXING COPYRIGHT (C) 2006 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'TOXCENTER' ENTERED AT 10:17:30 ON 31 MAR 2006
COPYRIGHT (C) 2006 ACS

FILE 'MARPAT' ENTERED AT 10:17:30 ON 31 MAR 2006
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2006 American Chemical Society (ACS)
PROCESSING COMPLETED FOR L13
PROCESSING COMPLETED FOR L12
L14          16 DUP REM L13 L12 (3 DUPLICATES REMOVED)
                ANSWER '1' FROM FILE CAPLUS
                ANSWER '2' FROM FILE USPATFULL
                ANSWERS '3-16' FROM FILE MARPAT

=> d ibib ed abs hitstr 1-2; d ibib ed abs qhit 3-16; fil hom

L14  ANSWER 1 OF 16  CAPLUS  COPYRIGHT 2006 ACS on STN DUPLICATE 1
ACCESSION NUMBER:         1998:263206  CAPLUS
DOCUMENT NUMBER:          128:266964
TITLE:                    Process of transfecting a cell with a polynucleotide
                          mixed with an amphipathic compound and a DNA-binding
                          protein
INVENTOR(S):              Wolff, Jon A.; Fritz, Jeffery; Budker, Vladimir;
                          Hagstrom, James
PATENT ASSIGNEE(S):       Mirus Corporation, USA
SOURCE:                   U.S., 16 pp.
                          CODEN: USXXAM
DOCUMENT TYPE:            Patent
LANGUAGE:                 English
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:

     PATENT NO.           KIND   DATE        APPLICATION NO.         DATE
     ---------------      ----   --------    --------------------    --------
     US 5744335            A     19980428    US 1995-530598          19950919
     US 6180784            B1    20010130    US 1998-20566           19980117
PRIORITY APPLN. INFO.:                       US 1995-530598      A3  19950919
OTHER SOURCE(S):          MARPAT 128:266964
ED   Entered STN:  08 May 1998
GI
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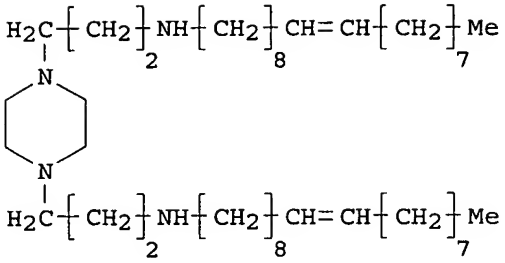


I

AB Transfection of a cell is accomplished using with a polynucleotide mixed with one or more amphipathic compds. and a DNA-binding protein, especially a histone such as histones H1, H2A, or H2B. The DNA-binding protein may be fused to a nuclear localization signal peptide. Exemplary and preferred amphipathic compds. are cationic amphipathic compds. I was synthesized in 70% yield by reacting 1,4-bis(3-aminopropyl)piperazine with oleoyl chloride and reducing the intermediate with LiAlH4 in THF. Histone H1 was found to increase the transfection efficiency of I 16.1-fold. I/H1 reagent has a greater transfection efficiency and less cellular toxicity then LipofectAmine, which is useful in gene therapy.

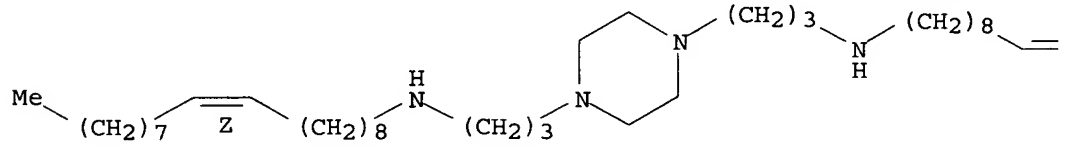
IT **205595-99-9P**
RL: BUU (Biological use, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(cell transfection with polynucleotide mixed with amphipathic compound and DNA-binding protein)

RN 205595-99-9 CAPLUS

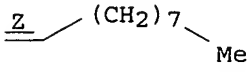
CN 1,4-Piperazinedipropanamine, N,N'-di-9-octadecenyl-, (Z,Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 2 OF 16 USPATFULL on STN
ACCESSION NUMBER: 2001:14639 USPATFULL
TITLE: Process of transfecting a cell with a polynucleotide mixed with an amphipathic compound and a DNA-binding protein
INVENTOR(S): Wolff, Jon A., Madison, WI, United States

Searched by Barb O'Bryen, STIC 2-2518

Hagstrom, James E., Madison, WI, United States
Budker, Vladimir G., Madison, WI, United States
Fritz, Jeffery, Nashville, TN, United States
PATENT ASSIGNEE(S): Mirus Corporation, Madison, WI, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6180784	B1	20010130
APPLICATION INFO.:	US 1998-20566		19980117 (9)

RELATED APPLN. INFO.: Division of Ser. No. US 1995-530598, filed on 19 Sep 1995, now patented, Pat. No. US 5744335
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Lambkin, Deborah C.
LEGAL REPRESENTATIVE: Johnson, Mark K.
NUMBER OF CLAIMS: 8
EXEMPLARY CLAIM: 1
LINE COUNT: 1198

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides a process of transfecting a cell with a polynucleotide mixed with one or more amphipathic compounds and an effective amount of a DNA-binding protein. Exemplary and preferred DNA-binding proteins are H1, H2A, and H2B. Exemplary and preferred amphipathic compounds are cationic amphipathic compounds.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

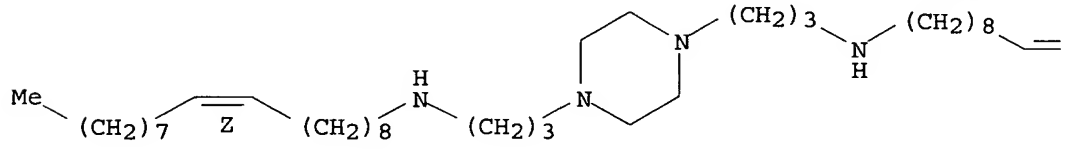
IT **205595-99-9P**
(cell transfection with polynucleotide mixed with amphipathic compound and DNA-binding protein)

RN 205595-99-9 USPATFULL

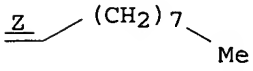
CN 1,4-Piperazinedipropanamine, N,N'-di-9-octadecenyl-, (Z,Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



'ED' IS NOT A VALID FORMAT
REENTER DISPLAY FORMAT FOR ALL FILES (FILEDEFAULT):ibib abs qhit

L14 ANSWER 3 OF 16 MARPAT COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 143:103230 MARPAT

TITLE: Compositions and processes using siRNA, amphipathic compounds, and polycations
INVENTOR(S): Monahan, Sean D.; Lewis, David L.; Herweijer, Hans; Wolff, Jon A.; Hagstrom, James E.; Loomis, Aaron G.; Trubetskoy, Vladimir; Higgs, Lori
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 34 pp., Cont.-in-part of U.S. Ser. No. 345,021.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 33
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005143332	A1	20050630	US 2004-845968	20040514
US 2003125281	A1	20030703	US 2002-157674	20020528
US 2003143204	A1	20030731	US 2002-186757	20020701
US 2004137064	A1	20040715	US 2003-345021	20030115
WO 2005116045	A1	20051208	WO 2004-US15507	20040515

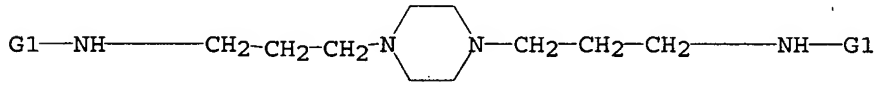
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.:

US 2002-157674	20020528
US 2002-186757	20020701
US 2003-345021	20030115
US 2001-917154	20010727
US 2001-315394P	20010827
US 2001-324155P	20010920
US 2004-845968	20040514

AB Described is a deliverable composition with low toxicity comprising an amphipathic compound, a polycation, and a siRNA. The composition may be used in the process of delivering a siRNA to an animal cell or more particularly, a mammal cell.

MSTR 1



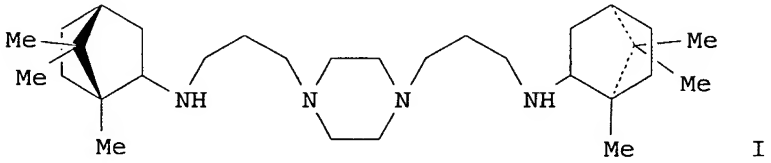
G1 = alkenyl <containing 6-24 C>
Patent location: claim 3

L14 ANSWER 4 OF 16 MARPAT COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 143:440444 MARPAT
TITLE: Preparation of polyamines as ligands for metal

complexes
INVENTOR(S): Habagami, Shigeki; Higashimura, Hideyuki
PATENT ASSIGNEE(S): Sumitomo Chemical Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005314273	A2	20051110	JP 2004-133185	20040428

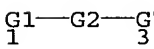
PRIORITY APPLN. INFO.: JP 2004-133185 20040428
GI



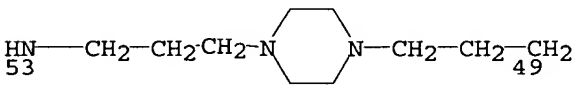
I

AB R1(NR1R2)nNR12 (n = 3-7; R1 = H, hydrocarbyl; R2 = hydrocarbylene; ≥2 of R1 hydrocarbyl having asym. C atom; 2 R2s may be bonded to form a ring; number of rings ≤ 3) are prepared Thus, a mixture of (+)-camphor, toluene, BF3-Et2O, and 1,4-bis(3-aminopropyl)piperazine was refluxed for 18 h and the reaction product was treated with NiCl2 and NaBH4 at room temperature for 16 h to give 18% tetramine I. Oxidative polymerization of 2,3-dihydroxynaphthalene using I and CuCl gave 11% poly(2,3-dihydroxy-1,4-naphthalene).

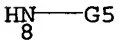
MSTR 1



G1 = alkenyl <containing 2-30 C>
G2 = 53-1 49-3



G5 = alkenyl <containing 2-30 C>
G7 = 8



Patent location: claim 1
Note: substitution is restricted
Note: additional ring formation also claimed

L14 ANSWER 5 OF 16 MARPAT COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 144:93797 MARPAT
TITLE: Particular diazo cationic compound, as direct dyes, for dying of hair
INVENTOR(S): Greaves, Andrew; David, Herve
PATENT ASSIGNEE(S): L'Oreal, Fr.
SOURCE: Fr. Demande, 53 pp.
CODEN: FRXXBL
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

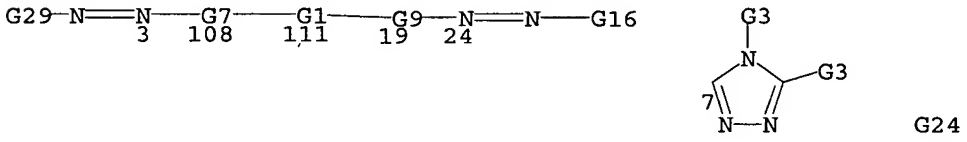
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 2872162	A1	20051230	FR 2004-6871	20040623
JP 2006009017	A2	20060112	JP 2005-182483	20050622
CN 1737064	A	20060222	CN 2005-10091353	20050622
US 2006021162	A1	20060202	US 2005-159154	20050623
EP 1634926	A1	20060315	EP 2005-291353	20050623

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, BA, HR, IS, YU

PRIORITY APPLN. INFO.: FR 2004-6871 20040623
US 2004-588041P 20040715

AB Diazo cationic compds. are used as direct dyes for dying of hair (Markush structure given). A diazo cationic dye was prepared by the reaction of a diazonium aminopyridine derivative with an azopyridinium derivative A hair dy containing 5x10-3 mol/L of above dye was applied to a 90% gray hair to obtain a fushia color.

MSTR 1



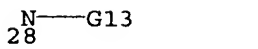
G1 = 131-108 133-19 / 145-108 149-19

G21–G22–G21 G21–G32–G21–G33–G21
131 133 145 147 149

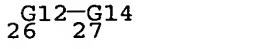
G7 = 17-3 18-111

G28–G8
17 18

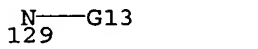
G8 = 28



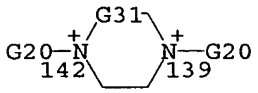
G9 = 26-111 27-24



G12 = 129



G13 = carbon chain <containing 1-20 C> (opt. substd.)
G21 = carbon chain <containing 1-14 C> (opt. substd.)
G22 = 142-131 139-133



G31 = (1-2) CH2
Patent location: claim 1
Note: additional ring formation also claimed
Note: substitution is restricted

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

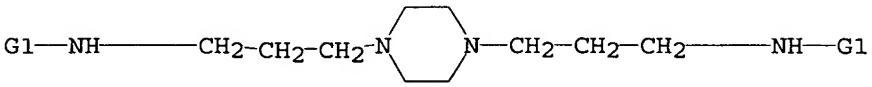
L14 ANSWER 6 OF 16 MARPAT COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 141:111545 MARPAT
TITLE: Compositions and processes using siRNA, amphipathic compounds, and polycations
INVENTOR(S): Lewis, David L.; Herweijer, Hans; Monahan, Sean D.; Wolff, Jon A.; Hagstrom, James E.; Loomis, Aaron G.
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 23 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 33
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004137064	A1	20040715	US 2003-345021	20030115
WO 2004065587	A1	20040805	WO 2003-US2165	20030124
W: JP				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR				
EP 1597357	A1	20051123	EP 2003-707518	20030124
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, CY, TR, BG, CZ, EE, HU, SK				
US 2004019008	A1	20040129	US 2003-621760	20030717
US 2005143332	A1	20050630	US 2004-845968	20040514
PRIORITY APPLN. INFO.:			US 2002-157674	20020528

US 2002-186757 20020701
US 2003-345021 20030115
WO 2003-US2165 20030124

AB Described is a composition with low toxicity comprising an amphipathic compound and a polycation, useful for delivering siRNA to a cell. The composition may be used in the process of delivering a siRNA to an animal cell, or more particularly a mammal cell, in a multi-well format.

MSTR 1

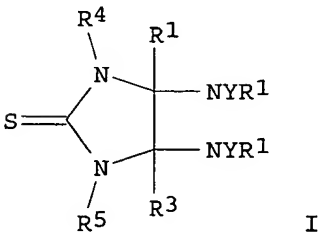


G1 = alkenyl <containing 6-24 C>
Patent location: claim 4

L14 ANSWER 7 OF 16 MARPAT COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 140:184420 MARPAT
TITLE: Cyclic aminothioureas as lubricating oil antiwear, anticorrosion, and antioxidant additives to replace zinc dialkyl dithiophosphates
INVENTOR(S): Mukkamala, Ravindranath
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 5 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004029746	A1	20040212	US 2003-636683	20030807
EP 1394243	A1	20040303	EP 2003-254693	20030728
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
JP 2004131710	A2	20040430	JP 2003-287847	20030806

PRIORITY APPLN. INFO.: US 2002-401845P 20020807
GI

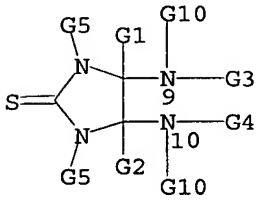


I

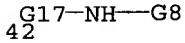
AB Cyclic and bicyclic aminothiourea-based lubricating oil antiwear, corrosion inhibitor, and antioxidant additives, are suitable replacements for zinc dialkyl dithiophosphates. The aminothioureas are of general structure I, in which R2 and R3 are H, alkyl, alkenyl, aryl, or aralkyl;

or R2R3 can combine with carbon atoms of an imidazolidinethione ring to form a saturated or unsatd. C5-8-carbocyclic ring; R1 is alkyl, alkenyl, or aralkyl; or R1 groups can combine with the nitrogen atoms to which they are attached and carbon atoms of an imidazolidinethione ring to form a five- to seven-membered heterocyclic ring. Further, R4 and R5 are H, alkyl, alkenyl, aryl aralkyl, -CHR6-CHR7-CO2R8, -CR9R10-NHR11, or -C(:Z)-NHR12; R6 and R7 are H or C1-4-alkyl; R8-10 are alkyl, alkenyl, aralkyl, or aryl; Y = H, alkyl, alkenyl, aralkyl, -CHR6-CHR7-CO2R8, -CR9R10-NHR11, -C(:Z)NHR12, or -OH; and Z = O or S. The additives, which can consist of 2 cyclic thioamides, are present at 0.1-20 weight% concentration

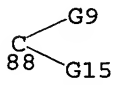
MSTR 1



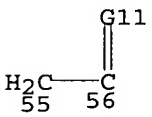
G8 = carbon chain <containing 1-22 C,
0 or more double bonds, no triple bonds> (opt. substd.)
G10 = 42



G17 = 88



G3 +G4 = 55-9 56-10



Patent location: claim 1
Note: oxygen alternative in G10 is free radical

L14 ANSWER 8 OF 16 MARPAT COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 140:133819 MARPAT
TITLE: Compositions and processes using siRNA, amphipathic compounds and polycations
INVENTOR(S): Lewis, David L.; Hagstrom, James E.; Herweijer, Hans; Loomis, Aaron G.; Monahan, Sean D.; Wolff, Jon A.; Trubetskoy, Vladimir
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 25 pp., Cont.-in-part of U.S. Ser. No. 345,021.

CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 33
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004019008	A1	20040129	US 2003-621760	20030717
US 2003125281	A1	20030703	US 2002-157674	20020528
US 2003143204	A1	20030731	US 2002-186757	20020701
US 2004137064	A1	20040715	US 2003-345021	20030115
WO 2005017098	A2	20050224	WO 2003-US25121	20030811
WO 2005017098	A3	20050630		

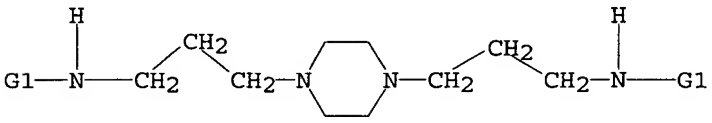
W: JP
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR

PRIORITY APPLN. INFO.:

US 2002-157674	20020528
US 2002-186757	20020701
US 2003-345021	20030115
US 2001-917154	20010727
US 2001-315394P	20010827
US 2001-324155P	20010920
US 2003-621760	20030717

AB Described is a composition with low toxicity comprising an amphipathic compound and a polycation, useful for delivering siRNA to a cell. The composition may be used in the process of delivering a siRNA to an animal cell, or more particularly a mammal cell, in a multi-well format.

MSTR 1



G1 = alkenyl <containing 6-24 C>
Patent location: claim 2

L14 ANSWER 9 OF 16 MARPAT COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 138:189529 MARPAT
TITLE: Ink sets with improved light discoloration resistance, and method and apparatus for ink-jet recording
INVENTOR(S): Yakushigawa, Yuko; Teraoka, Hisashi; Mafune, Kumiko; Kanke, Takeshi; Takizawa, Yoshihisa
PATENT ASSIGNEE(S): Canon Inc., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 35 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003055585	A2	20030226	JP 2001-191882	20010625
US 6866380	B2	20050315	US 2003-682521	20031010

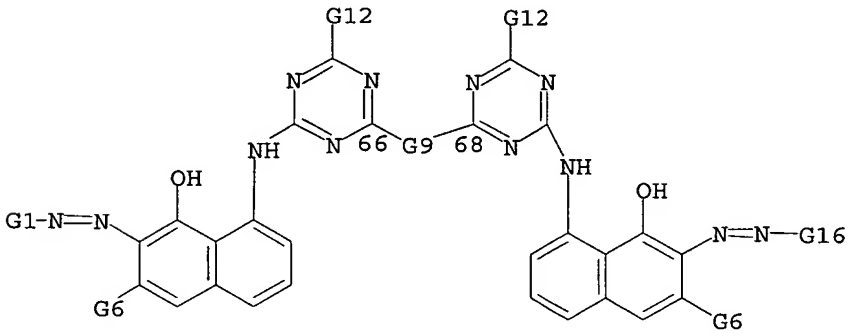
PRIORITY APPLN. INFO.: JP 2000-190325 20000623
JP 2001-168257 20010604
US 2001-884096 20010620

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The ink sets consist of ≥3 water-based color inks showing the difference of light discoloration ΔE (definition given) among the inks ≤10 and reflection d. retention after a fading test (condition given) ≥70%. Thus, an ink set was manufactured from a cyan ink containing C.I. Acid Blue 9 and C.I. Direct Blue 199, a magenta ink containing I, II, and C.I. Acid Red 289, and a yellow ink containing C.I. Direct Yellow 132.

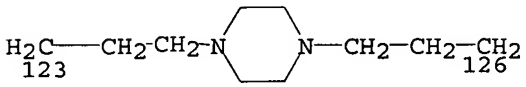
MSTR 3



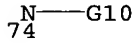
G9 = 4-66 61-68

G14—G11—G14
4 61

G10 = alkenyl (opt. subst. by 1 or more G13)
G11 = 123-4 126-61



G13 = CO2H
G14 = 74



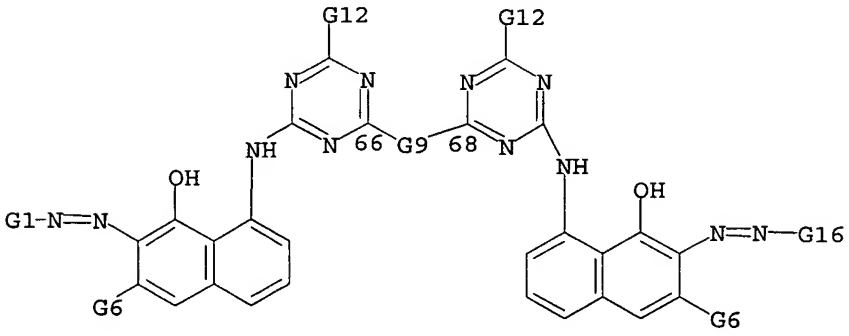
Patent location: claim 10
Note: or salts
Note: additional ring formation also claimed

L14 ANSWER 10 OF 16 MARPAT COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 138:138941 MARPAT
TITLE: Light-resistant ink sets and apparatus and method for jet-printing
INVENTOR(S): Mafune, Kumiko; Kanke, Takeshi
PATENT ASSIGNEE(S): Canon Inc., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 39 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003034763	A2	20030207	JP 2001-173046	20010607
US 2004074418	A1	20040422	US 2003-682519	20031010
PRIORITY APPLN. INFO.:			JP 2000-176138	20000612
			JP 2001-145161	20010515
			US 2001-871627	20010604

AB The ink sets comprise same color tone two water-thinned inks containing ≥1 common colorant, one of which shows lower color d. and gives images with the same or better light fastness. Thus, an ink containing 0.5 part C.I. Acid Blue 9 and 3.5 part C.I. Direct Blue 199 (I) and an ink containing 1.5 parts I were used for jet-printing resulting in clear images with improved optical d. after light irradiation

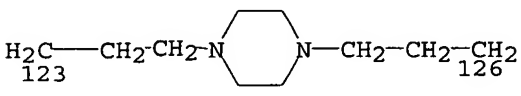
MSTR 3



G9 = 4-66 61-68

G14—G11—G14
4 61

G10 = alkenyl (opt. substd. by 1 or more G13)
G11 = 123-4 126-61



G13 = CO2H
G14 = 74

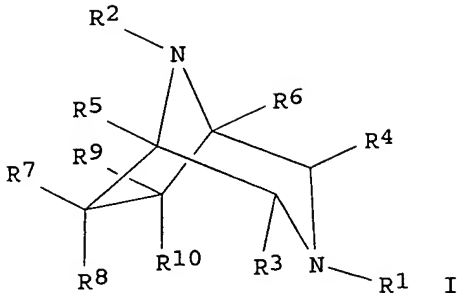
N——G10
74

Patent location: claim 9
Note: or salts
Note: additional ring formation also claimed

L14 ANSWER 11 OF 16 MARPAT COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 136:340701 MARPAT
TITLE: Preparation of 3,8-diazabicyclo[3.2.1]octanes for treating cardiac arrhythmias
INVENTOR(S): Bjoersne, Magnus; Hoffmann, Kurt-Juergen; Ponten, Fritiof; Strandlund, Gert; Svensson, Peder; Wilstermann, Michael
PATENT ASSIGNEE(S): Astrazeneca AB, Swed.
SOURCE: PCT Int. Appl., 135 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002032902	A1	20020425	WO 2001-SE2294	20011018
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2001096173	A5	20020429	AU 2001-96173	20011018
EP 1328526	A1	20030723	EP 2001-977023	20011018
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
JP 2004511559	T2	20040415	JP 2002-536284	20011018
US 2004023971	A1	20040205	US 2003-399663	20030508
US 7012074	B2	20060314		
PRIORITY APPLN. INFO.:			SE 2000-3795	20001020
			WO 2001-SE2294	20011018

GI



I

AB The title compds. [I; one of R1 and R2 = R1a and the other = ACR13R14BR15 (wherein R1a = alkyl optionally substituted and/or terminated by one or more groups selected from halo, CN, NO2, etc.; R13 = H, halo, alkyl, etc.; R13R14 = O; or R14 = H, alkyl; R15 = (un)substituted aryl, heteroaryl; A = alkylene, etc.; B = a bond, alkylene, etc.); R3-R10 = H, alkyl], useful in the prophylaxis and in the treatment of arrhythmias, in particular atrial and ventricular arrhythmias, were prepared Thus, reacting tert-Bu 3-(4-cyanophenoxy)-1-(3,8-diazabicyclo[3.2.1]oct-8-ylmethyl)propylcarbamate (preparation given) with Bu isocyanate in the presence of Et3N in MeCN followed by treatment with HCl/EtOAc afforded I [R1 = CONHBu; R2 = CH2CHNH2CH2CH2O-p-C6H4CN; R3-R10 = H] in quant. yield. The exemplified compds. I showed pIC50 values of at least 5.5 for K channel blockade.

MSTR 1

```
G2---G1---G3
9    10    11
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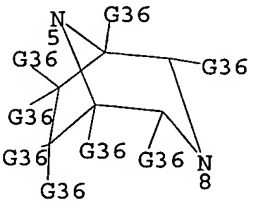
G1 = 5-9 8-11



G2 = carbon chain <containing 1-12 C>
(opt. substd. by 1 or more G46)
G3 = 101

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 G20-G19
101 102
```

G5 = carbon chain <containing 1-6 C> (opt. substd.)
G11 = carbon chain <containing 1-6 C> (opt. substd.)
G18 = carbon chain <containing 1-6 C> (opt. substd.)
G20 = 125-10 126-102 / 127-10 129-102 /
103-10 105-102 / 121-10 124-102 / 141-10 143-102 /

148-10 151-102

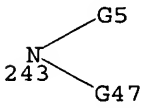
G11—G21 G11—G31—G21 G11—G21—G24 G11—G31—G21—G25
125 126 127 129 103 104 105 121 123 124

G11—G21—G32 G11—G31—G21—G33
141 142 143 148 150 151

G31 = 109

N——G18
109

G46 = 243



Patent location: claim 1
Note: additional derivatization also claimed
Note: or pharmaceutically acceptable derivatives
Note: substitution is restricted
Note: also incorporates claims 36

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 12 OF 16 MARPAT COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 134:193345 MARPAT
TITLE: Preparation of 4-amino-1-benzylpiperidines as antimalarials.
INVENTOR(S): Kim, Jin Mi; Ellman, Jonathan A.; Goldberg, Daniel
PATENT ASSIGNEE(S): Regents of the University of California, USA
SOURCE: PCT Int. Appl., 91 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001014331	A2	20010301	WO 2000-US23338	20000823
WO 2001014331	A3	20010907		

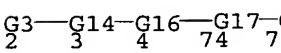
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 1999-150501P 19990824
GI

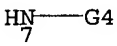
* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB R1R2R3 [R1 = R4X1(R5X2)NX6, Q1, Q2; R2 = (substituted) arylene, heteroarylene, alkylene; R3 = Q3, Q4; X1-X7 = bond, O, CO, CO2, CONH, CONR14, SO2; R4, R5, R8, R9, R11 = H, OH, alkoxy, (substituted) alkyl; R6, R7, R10, R12, R13 = CO, CO2, CONH, CONR15, SO2; R14-R17 = alkyl, aryl, heteroaryl, carboxylic acid ester or amide, amino, acylamino, alkoxy, OH, SH, phosphono, sulfono], were prepared as inhibitors of protozoal proteases (no data). Thus, Cl(CH2)3Br and 4-amino-1-benzylpiperidine were stirred together for 16 h in MeCN to give 97% 1-benzyl-4-(3-chloropropylamino)piperidine. This was treated with di-tert-Bu dicarbonate in THF to give 94% 1-benzyl-4-(N-3-chloropropyl-N-tert-butoxycarbonylamino)piperidine. The latter was heated with NaN3 and NaI in DMF at 75-80° to give 94% 1-benzyl-4-(N-3-azidopropyl-N-tert-butoxycarbonylamino)piperidine. Reduction with SnCl2/PhSH/Et3N in THF gave 93% 1-benzyl-4-(N-3-aminopropyl-N-tert-butoxycarbonylamino)piperidine. This was acylated with 4-benzyloxy-3,5-dimethoxybenzoic acid using PyBOP, HOAt, and DIPEA in DMF (88%) followed by deprotection with CF3CO2H in CH2Cl2 (94%) and reduction with LiAlH4 in THF to give 64% title compound (I).

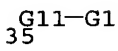
MSTR 1B



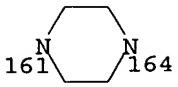
G3 = 7



G4 = carbon chain <containing 1-10 C, 0 or more double bonds, 0 or more triple bonds> (opt. substd.)
G7 = 35



G10 = carbon chain <containing 1-10 C, 0 or more double bonds, 0 or more triple bonds> (opt. substd.)
G11 = NH (opt. substd.)
G14 = carbon chain <containing 1-10 C, 0 or more double bonds, 0 or more triple bonds> (opt. substd.)
G16 = bond
G17 = 161-4 164-75



G25 = 183

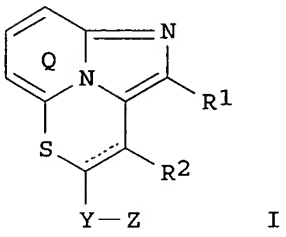
C(O)-G7
183

Patent location: claim 1
Note: substitution is restricted

L14 ANSWER 13 OF 16 MARPAT COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 130:311794 MARPAT
TITLE: Preparation of fused imidazopyridine derivatives as hypolipemics and hypoglycemics
INVENTOR(S): Takatani, Muneo; Sugiyama, Yasuo; Kawamoto, Tetsuji; Adachi, Koji
PATENT ASSIGNEE(S): Takeda Chemical Industries, Ltd., Japan
SOURCE: PCT Int. Appl., 153 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9920632	A1	19990429	WO 1998-JP4787	19981022
W: AL, AM, AU, AZ, BA, BB, BG, BR, BY, CA, CN, CU, CZ, EE, GD, GE, HR, HU, ID, IL, IS, JP, KG, KR, KZ, LC, LK, LR, LT, LV, MD, MG, MK, MN, MX, NO, NZ, PL, RO, RU, SG, SI, SK, SL, TJ, TM, TR, TT, UA, US, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 9896465	A1	19990510	AU 1998-96465	19981022
JP 11199586	A2	19990727	JP 1998-300748	19981022
PRIORITY APPLN. INFO.:			JP 1997-291023	19971023
			WO 1998-JP4787	19981022

GI

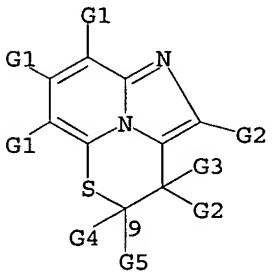


I

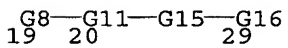
AB The title compds. I [ring Q represents an optionally substituted pyridine ring; one of R1 and R2 represents hydrogen while the other represents

optionally substituted lower alkyl; Y represents a bond or optionally substituted divalent hydrocarbon group; Z represents a basic group optionally mediated by oxygen, nitrogen, CO, CS, SO2N(R3) (wherein R3 represents hydrogen or optionally substituted hydrocarbyl) or S(O)n (wherein n is 0, 1 or 2); and dotted line represents a single or double bond] are prepared I have the effects of increasing the low-d. lipoprotein receptor content, lowering the blood lipid level, and lowering the blood sugar level. The non-HDL cholesterol level in hamsters dosed with N-[1-(3-phenylpropan-1-yl)piperidin-4-yl]-2-methyl-5-thia-1,8b-diazacenaphthylene-4-carboxamide dihydrochloride at 20 mg/kg/day for 4 days was 68.5% that of controls.

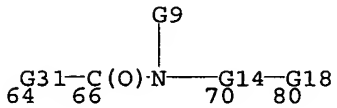
MSTR 1



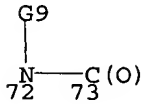
G5 = 19



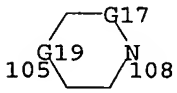
G8 = 64-9 80-20



G9 = alkenyl <containing 2-18 C>
G11 = carbon chain (opt. substd.)
G14 = carbon chain (opt. substd.)
G15 = 72-20 73-29



G17 = (0-2) CH2
G18 = 105-70 108-20



G19 = N
G31 = bond
Derivative: or salts
Patent location: claim 1
Note: also incorporates claim 22
Note: interruptions also claimed

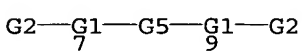
REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 14 OF 16 MARPAT COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 128:266943 MARPAT
TITLE: Piperazine-based cytofectins
INVENTOR(S): Wheeler, Carl J.
PATENT ASSIGNEE(S): Vical Inc., USA; Wheeler, Carl J.
SOURCE: PCT Int. Appl., 44 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

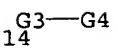
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9814439	A1	19980409	WO 1997-US17155	19970924
W: CA, JP, US				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
US 5861397	A	19990119	US 1996-726348	19961003
CA 2266781	AA	19980409	CA 1997-2266781	19970924
EP 929536	A1	19990721	EP 1997-943555	19970924
EP 929536	B1	20041222		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2001511113	T2	20010807	JP 1998-516656	19970924
AT 285404	E	20050115	AT 1997-943555	19970924
US 6022874	A	20000208	US 1998-219758	19981223
PRIORITY APPLN. INFO.:			US 1996-726348	19961003
			WO 1997-US17155	19970924

AB The present invention relates to piperazine-based amphiphilic cationic lipids useful for gene therapy, transfection, and introducing immunogenic compds. for the purpose of vaccination. The disclosed compds. have lipophilic moieties linked to the ring nitrogens. In addition, at least one of the ring nitrogens is quaternized and linked to a hydrocarbon having at least one heteroatom. Numerous quaternized piperazines were prepared and employed both in vitro and in vivo for transfection of tumor, arterial and muscle cells. The effects of double quaternization of the piperzine moiety, of presence of heteroatoms (in the form of amino or hydroxyl groups) in the alkyl chains, and the alkyl chain length were studied.

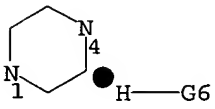
MSTR 1



G1 = (1-6) CH2
G2 = 14



G3 = NH
G4 = alkenyl <containing 2-23 C, 1-6 double bonds>
(opt. substd. by 1 or more G7)
G5 = 1-7 4-9



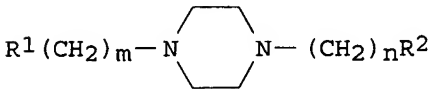
Patent location: claim 1
Note: substitution is restricted
Note: also incorporates claim 18

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 15 OF 16 MARPAT COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 127:351188 MARPAT
TITLE: Piperazine derivatives and drugs carriers containing them
INVENTOR(S): Isozaki, Masafumi; Koiwai, Kazutomo; Uchiyama, Hideki
PATENT ASSIGNEE(S): Terumo Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 09263582	A2	19971007	JP 1996-76331	19960329
PRIORITY APPLN. INFO.:			JP 1996-76331	19960329

GI

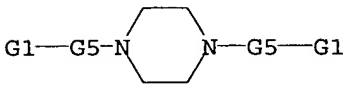


I

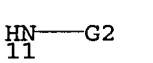
AB The derivs. I (R1-2 = NR3R4, N+R5R6R7; R3, R5 = C10-40 alkyl, alkenyl; R4, R6-7 = H, alkyl, alkenyl; m, n = 1-10) are claimed as components of drug carriers for diagnostic agents and/or therapeutic agents including DNA. The drug carriers may be in the forms of macromols., microaggregates, microparticles, microspheres, nanospheres, liposomes, or emulsions. The carriers are useful for effective transfer of nucleic acids, polynucleotide, gene, etc., to target tissues. A CHCl3 solution containing 1,4-bis[3-(N-hexadecylamino)propyl]piperazine (preparation given), dilauroylphosphatidylcholine, and dioleoylphosphatidylethanolamine was evaporated in a flask and the flask was treated with an aqueous solution of plasmid

pcDNA/Amp bearing β-galactosidase gene under vigorous stirring to give liposomes. Transfection efficiency of the gene by the liposomes to Cos-1 cells was 17.8%, vs. 5.9% by Lipofectin.

MSTR 1



G1 = 11



G2 = alkenyl <containing 1-40 C>
G5 = (1-10) CH2
Patent location: claim 1

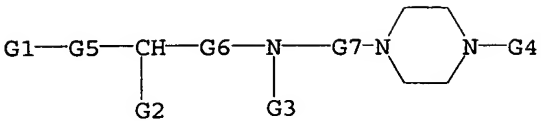
L14 ANSWER 16 OF 16 MARPAT COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 111:97286 MARPAT
TITLE: 4-[(Alkylamino)alkyl]piperazine derivatives as glutamic acid blockers
INVENTOR(S): Shinozaki, Atsuhiko; Sato, Masaru; Morifuji, Naoya; Hashimoto, Koichi; Kamishiro, Toshiro; Mazaki, Mitsuo
PATENT ASSIGNEE(S): Nippon Chemiphar Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 01038080	A2	19890208	JP 1987-193202	19870801

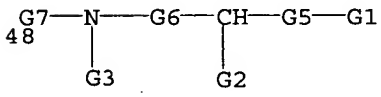
PRIORITY APPLN. INFO.: JP 1987-193202 19870801
GI For diagram(s), see printed CA Issue.
AB Alkylenediamine derivs. [I; R1 = straight-chain or branched C3-8 aliphatic hydrocarbyl, C5-8 alicyclic hydrocarbyl, aryl, aryl-C1-4 alkyl; R2 = straight-chain or branched C3-11 aliphatic hydrocarbyl, C3-11 alkoxy, C3-11 aliphatic hydrocarbyl containing an ester bond or an ether bond, aryloxy; R3 = straight-chain, branched, or ester bond-containing C3-11 aliphatic hydrocarbyl, aryl-ether bond-containing alkyl; when one of R2 and R3 is as described above, the other group is H or C≤2 alkyl; R4 = H, straight-chain or branched C≤12 alkyl, C≤12 alkoxy, -acyl, or -alkoxycarbonyl, (un)substituted aryl, (un)substituted aryl-C1-5 alkyl, C1-3 hydroxyalkyl, cyano, R1(CH2)mCHR2(CH2)nNR3(CH2)p; m, n = 0-3 integer; m + n <3; p = 2-13 integer] were prepared as CNS agents and insecticides. A solution of N-[4-methyl-1-(3-methylbutyl)pentyl]acrylamide 2.26 and 1-benzylpiperazine 2.12 g in MeOH was refluxed for 10 h to give 85% 3-(4-benzylpiperazinyl)-N-[4-methyl-1-(3-methylbutyl)pentyl]propanamide which was reduced by diborane in refluxing THF to give 71% 1-benzyl-4-[3-[4-methyl-1-(3-methylbutyl)pentylamino]propyl]piperazine. The latter in vitro reduced 87% glutamic acid-induced muscle-membrane electronic potential in the opener muscle of the dactyl in the first leg of crayfish (Combarus

clarkii).

MSTR 1A

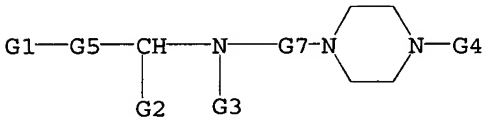


G3 = carbon chain <containing 3-11 C>
(opt. substd. by G8)
G4 = 48

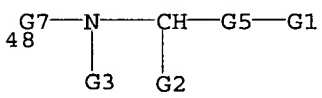


G5 = bond
G7 = alkylene <containing 2-13 C, unbranched>
Derivative: or salts
Patent location: claims
Note: substitution is restricted

MSTR 1B



G3 = carbon chain <containing 3-11 C>
(opt. substd. by G8)
G4 = 48



G5 = bond
G7 = alkylene <containing 2-13 C, unbranched>
Derivative: or salts
Patent location: claims
Note: substitution is restricted

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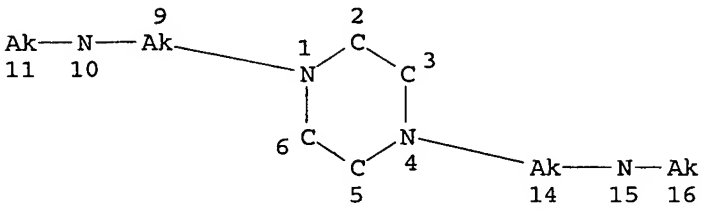


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CONNECT IS E1  RC AT  11
CONNECT IS E2  RC AT  14
CONNECT IS E1  RC AT  16
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MLEVEL  IS CLASS  AT   9 11 14 16
GGCAT   IS LIN  LOC  SAT  AT   9
GGCAT   IS UNS  AT  11
GGCAT   IS LIN  LOC  SAT  AT  14
GGCAT   IS UNS  AT  16
DEFAULT ECLEVEL IS LIMITED
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GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
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D IBIB ED ABS QHIT 3-16

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